

The invention provides a blowing agent delivery system for introducing a blowing agent into a polymeric foam processing system. The delivery system is designed to discontinuously introduce blowing agent from a continuous source into polymeric material within an extruder. The system, thus, may improve control over blowing agent delivery in discontinuous polymer processing systems such as injection molding or blow molding. In some embodiments, the blowing agent delivery system selectively directs blowing agent flow from the source to the extruder barrel, or through a bypassing passageway. In this manner, blowing agent may be continuously supplied by the source but discontinuously injected into the extruder barrel. During use, the delivery system may cause blowing agent to flow through the bypassing passageway, for example, when the screw stops plasticating polymeric material.